SCIENTIFIC COMMITTEE
THIRTEENTH REGULAR SESSION

Rarotonga, Cook Islands
9 – 17 August 2017

ANNUAL REPORT TO THE COMMISSION
PART 1: INFORMATION ON FISHERIES, RESEARCH, AND STATISTICS

WCPFC-SC13-AR/CCM-03

CHINA

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Annual Report to the Commission

Part 1: Information on Fisheries, Research and Statistics

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Part 1: Information on Fisheries, Research and Statistics

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Scientific data was provided to the Commission in accordance with the decision relating to the provision of scientific data to the Commission by 30 April 2017	**YES**

Summary

There are two types of tuna fisheries in the WCPFC Convention Areas: longline and purse seine fisheries. In 2016, 418 longliners and 16 purse seiners operated in the WCPFC Convention Areas. The total catch of tuna and tuna-like species by longline fishery and purse seine fishery was estimated to be 35,725 MT and 17,422 MT, respectively. The catch of bigeye tuna, yellowfin tuna, and albacore by the longline fishery was 8,195 MT, 6,559 MT and 16,175 MT, respectively. The catch of skipjack, yellowfin tuna and bigeye tuna by the purse seine fishery were estimated 13,292 MT, 3,805 MT and 325 MT, respectively. Catch by Chinese deep-frozen longline fishery for bigeye is exported to Japan for sashimi and catch by fresh-tuna longline for albacore is sold for cannery products. Catch by the purse seine fishery for skipjack is also sold for cannery products. From July 2016 to March 2017, fifteen (15) scientific observers were trained and dispatched to the Chinese longline vessels in the Pacific Ocean. Fisheries and biological data were collected during the observer trips. Data coverage for catch and effort was 100%. The logbook coverage for the longline fishery has been improved, which greatly improves the quality of the data China has collected.

1. Introduction

China began to develop its oceanic tuna fisheries in 1988 in the Pacific Ocean and this region is one of the earliest fishing grounds for China tuna fishery. There are currently two types of tuna fisheries in the WCPFC Convention area: longline (LL) fishery and purse seine (PS) fishery. The catch of four main tuna species (skipjack, yellowfin tuna, bigeye tuna and albacore) by China in 2004 was 40,165 MT. Catch of the four species hit a historical record of 112,260 MT in 2009, but decreased to 81,938 MT in 2010. It should be noted that above-mentioned catch does not include the catch from overlapping areas (S04- S40, W130-W150). Catch of the four species was 91,302 MT

in 2012 (including the catch from overlapping areas), which sharply decreased comparing to 2011. In 2016, the catch of the four species rebounded to **48,351**MT in the WCPFC Convention Areas.

2. Fleet structure

2.1 LL

All the Chinese LL vessels operated on the high seas and EEZs of Pacific Islands Countries (PIC). The number of LL fishing vessels has shown an increase trend since 2000. Table 1 shows the number of Chinese LL vessels operating in the WCPFC Convention Area in 2010-2016. The number of LL vessels in 2010 was 244, 275 in 2011, 286 in 2012 , 379 in 2013, 353 in 2014, 448 in 2015.In 2016, the number of LL vessels was 418.

Size of the LL vessels ranged from 67 GT to742 GT. There are two types of tuna longline vessels, ice fresh tuna longline (IFLL), including those targeting albacore, and deep frozen tuna longline (DFLL). The number of IFLL and DFLL vessel was 155 and 89, respectively in 2010; 182 and 93, respectively in 2011; 202 and 84, respectively in 2012; 272 and 107, respectively in 2013; 245 and 108, respectively in 2014; 357 and 91, respectively in 2015; and 321 and 97, respectively in 2016. For the 321 IFLL vessels, 26 were targeting BET and the rest targeting ALB.

Most of the DFLL vessels targeted bigeye tuna on the high seas and the EEZs of PIC. The IFLL vessels mainly operated in the EEZs of PIC, especially of Solomon Islands, Marshall Islands etc., and on the high seas, targeting bigeye tuna and albacore.

2.2 PS

Chinese fleet entered the WCPFC tropical purse seine fishery in 2001, and it has become very important for the China tuna fishery. The number of PS vessels maintained in a steady level of 12-14 during 2009-2013. Several old purse seine vessels have been replaced by newly built vessels in the recent years. In 2016 there are 16 purse seiners flagged China fishing in the WCPFC Convention area. Table 1 shows the number of Chinese PS vessels operating in the WCPFC Convention area in 2010-2016.

3. Catch by species and fishery

3.1 LL

The total catch by Chinese LL in the WCPFC Convention area from 2011 to 2016 is shown in Table 2. The total catch of tuna and tuna-like species in the longline fishery was 35725 MT in 2016. The catch mainly consists of ALB, BET and YFT. In 2016,

the percentages of ALB, BET and YFT by LL were 45.3%, 22.9% and 18.4%, respectively.

Table 3 shows the catch of non-target species caught by Chinese LL in the WCPFC Convention Area from 2011 to 2016, mainly including three billfishes species (striped marlin, blue marlin, and black marlin) and two shark species (blue shark and shortfin mako).

3.2 PS

The total catch by Chinese PS in the WCPFC Convention area from 2011 to 2016 was shown in Table 2. The catch was 53,716 MT in 2010, increased to 77,551 MT in 2011, then sharply decreased to 49,148 MT in 2012. In 2016, the main catch species by the PS fishery were SKJ, YFT, and BET. The catch of bigeye tuna (mainly juveniles) was estimated to 325 MT. The catch of yellowfin tuna was estimated to 3,805 MT. The catch of skipjack was estimated to 13,292 MT. The catch for the Chinese purse seine fleet are excluded those from the chartered vessels during the chartered period. The total catch of Chinese PS fleets in 2016 (17,422 MT) decreased by 59.7% compared to the catch in 2015 (43,236 MT). Thirteen purse seiners flagged China were chartered to Pacific Islands countries in 2016. The chartering CCMs are responsible for reporting the catches for the thirteen fishing vessels. This is the main cause for the catch decrease of Chinese purse seine fleets.

4. Disposal of Catch

Bigeye tuna and yellowfin tuna caught by longline vessels operating in the Exclusive Economic Zone (EEZ) of Pacific Island Countries and on the high seas were exported to Japan sashimi market. Other species caught as by-catch are sold to local market of operating ports. Albacore catch was landed at Fiji for cannery. Catch in the PS fishery was mostly transhipped to Thailand for cannery as well.

5. Research and Statistics

5.1 Observer programme

In order to have a high standard of scientific observer program, scientific observers are rigorously trained for collecting the fishery data of tunas and other pelagic fish stocks, including size-frequency data of all pelagic fishes as well as sea turtle information. Four (4) observers were sent to the Chinese longline vessels on the high seas in 2010, and then six (6) observers in 2011, eight (8) observers in 2012, nine (9) observers in 2013, six (6) in 2014, eight (8) in 2015. During 2016, fifteen (15) scientific observers were dispatched for the Pacific Ocean (Figure 1). Table 4 presents observer trip information on areas, time periods, total hooks and hooks per basket etc.

More observers are expected to be available for a higher coverage with more budget

by the Government in 2017.

5.2 Data collection system

Bureau of Fisheries (BOF), Ministry of Agriculture of China, is leading and supervising the data collection of Chinese tuna fisheries. National-wide meetings on tuna data quality have been organized at least once a year in recent years. Participants included managers of tuna fishing companies and tuna-related fishery enterprises. Each vessel of every company engaged in tuna fishing is required to report fishery data (such as catch and effort by species, month, gear, area etc.) to China Overseas Fisheries Association (COFA). Data coverage of catch and effort is 100%. COFA and Shanghai Ocean University (SHOU) host and maintain the fishery and observer database for the tuna fisheries of China

Since 2008, each LL vessel is required by the BOFFLE to use standard logbook which is modified frequently according to the latest applicable CMMs, and return it back to SHOU before the end of March the following year. The data containing in the logbook are evaluated and audited to ensure the good quality for the data collected.

Another important way to collect size data is port sampling. Port-sampling program conducted in domestic ports aims at collecting length data of tunas and other species. Measurement is done when unloading from fishing vessels or in the processing plants.

6 Implementation of Conservation and Management Measures

6.1 CMM 2005-03

In accordance with CMM 2005-03, all CCMs shall report annually to the WCPFC Commission all catches of albacore north of the equator and all fishing effort north of the equator in fisheries directed at albacore.

In 2016, the total catch of north Pacific albacore by the Chinese fishing fleet was 609.5 MT in the north Convention area, and 10 vessels targeted at albacore in the North Pacific Ocean.

6.2 CMM 2006-04

In accordance with CMM 2006-04, CCMs shall report annually to the Commission the catch levels of their fishing vessels that have taken striped marlin as bycatch as well as the number and catch levels of vessels fishing for striped marlin in the Convention Area south of 15°S.

The bycatch of striped marlin in the Convention area south of 15°s in 2016 is 11.5MT. None of China’s fishing vessels targets at striped marlin.

6.3 CMM 2009-03

In accordance with CMM 2009-03, the number of the fishing vessels for swordfish in

the Convention Area south of 20°S was limited to the number in any year during 2000-2005, and the catch of swordfish caught in the Convention Area south of 20°S is limited to the amount caught in any year during the period 2000-2006.

China has no vessels targeting swordfish. The total bycatch on the stock south of 20°S in 2016 in the Convention Area was reported to the Commission April 30 2017.

However, the reported catch data for such species submitted on April 30 2017 by Chi na include those that were discarded.The actual landed catch for such species by the Chinese fleet South of S20 in 2016 was 40.5 MT.

6.4 CMM 2009-06

In accordance with CMM 2009-06, CCMs shall report on all transshipment activities (including transshipment activities that occur in ports or EEZs) in Part 1 of its AnnualReport.

In 2016, 333 transshipments in total were made by Chinese flagged LSTLVs to WCPFC-registered carrier vessels, the total quantities of tuna and tuna-like species including by-catch transshipped are around 24125.792 metric ton offloaded and received with the presence of WCPFC observer.

6.4.1 Transshipment in port

Two in-port transshipments took place in SUVA in 2016, and the catch transshipped was around 78.08 metric tons.

6.4.2 Transshipment at sea

Transshipment at sea in areas of national jurisdiction. 25 transshipments took place in EEZ of Kiribati in 2016, and the catch transshipped was around 1468.692 MT.

306 at-sea transshipments that took place beyond areas of national jurisdiction in 2016, the total catch transshipped was around 22579.02 MT. The information of transshipment activities of our fishing fleets relating to the catch amount of each species and each product type in 2016 was shown in Table 5-8.

In terms of the transshipment,10032.5791 MT occurred in the WCPFC area, 5218.776 MT happened in the overlapping area and 5139.092 MT occurred in the IATTC area.

In terms of the catch, 7662.6031 MT are from WCPFC area (excluding the overlapping area), 2569.503 MT are from IATTC area, 12346.92 MT are from Overlap area, and 1468.692 MT come from EEZ. There are quite a few catches from overlapping area and IATTC area, according to para 2 of CMM 2009-06, if the transshipment occurred in WCPFC area, even the catches come from IATTC area, it is also required to report to WCPFC Secretariat such transshipment, and if the transshipment occurred in overlapping area, usually two observers assigned by both

WCPFC and IATTC on board the carrier vessel would issue two transshipment declaration reports.

6.5 CMM 2010-07

In accordance with CMM 2010-07, each CCM shall include key shark species, as identified by the Scientific Committee, in their annual reporting to the Commission of annual catch and fishing effort statistics by gear type, including available historical data, in accordance with the WCPF Convention and agreed reporting procedures.

Shark is one of the bycatch species for the longline fishing by Chinese vessel. Official document on tuna fishery was issued and distributed to each tuna fishing company in 2016 by the Ministry of Agriculture, where detailed requirements are clearly specified to the vessel owner. Such requirements include, for example, VMS, data collecting and reporting, observer, statistical document, seabird and sea turtle mitigation, and bycatch such as shark. With respect of sharks, it is required in the official document that sharks have to be fully utilized, the 5% ratio on sharkfin and weight of sharks up to the first landing point must be strictly observed. In accordance with CMM 2011-04, oceanic whitetip shark is prohibited to be kept on board as bycatch, such species must be handled strictly in line with the measure.

Each tuna longline vessel, no matter of its fishing ground, is required to precisely record the shark as bycatch in the logbook. More than 20 species, including 9 shark species, are required to be recorded in the logbook. Failure to record accurately will lead to sanctions by the government, as China implements performance review on each fishing company on an annual basis. Pictures of major shark species are printed in the logbook to assist the fishermen to easily identify the shark caught in fishing operations.

Bycatch data, including those for shark, are collected on a monthly basis, though sometimes need to be verified, by the China Overseas Fisheries Association. Such data, together with other data on tuna species, are forwarded to the Consultant Team at Shanghai Ocean University for an evaluation of their quality. Fishing companies that fail to report accurate/reasonable data are reported to the fisheries authority of China by the Team for questioning and possible penalty, including suspension of fishing permits of the vessel in question.

Shark data are reported to the Commission before the deadline of data submission. In 2016, 284 tons of shark retained are caught as bycatch in WCPFC by Chinese fishing fleet, most of which are blue sharks which constitutes almost 91.9% of the total bycatch of shark.

6.6 CMM 2011-03 and CMM 2012-04

In accordance with CMM 2011-03 and CMM 2012-04, CCMs shall advise in their Part 1 Annual Report of any instances in which cetaceans and whale sharks have been

encircled by the purse seine nets of their flagged vessels, respectively.

In 2016, 13 events about cetaceans encircled by the purse seine nets reported to our official authority and the vessels involved were XIN SHI JI 111 and XIN SHI JI 112.

In 2016, 12 events about whale sharks encircled by the purse seine nets reported to our official authority and the vessels involved were XIN SHI JI 111, XIN SHI JI 112, XIANG FA no.8 and JIN HUI no.8.

The detailed event record regarding the two issues mentioned above can be found in the attachment Table 9 and Table 10.

6.7 CMM 2011-04

In accordance with CMM 2011-04, each CCM shall estimate, through data collected from observer programs and other means, the number of releases of oceanic whitetip shark, including the status upon release (dead or alive), and report this information to the WCPFC in Part 1 of their Annual Reports.

In 2016, our observers recorded 53 dead, 200 alive and 23 unknown status of released oceanic whitetip shark in the WCPFC Convention Area, and we used this information to estimate the status of released oceanic whitetip shark captured by our entire longline fleets which was 2238 (430 dead,1622 alive and 186 unknown).

6.8 CMM 2012-07 and CMM 2015-03

In accordance with CMM 2012-07andCMM 2015-03 , CCMs shall annually provide to the Commission, in part 1 of their annual reports, all available information on interactions with seabirds reported or collected by observers, including mitigation used, observed and reported species specific seabird bycatch rates and numbers, to enable the Scientific Committee to estimate seabird mortality in all fisheries to which the WCPFC Convention applies.

The fisheries authority of China required fishing vessels to take appropriate measures to mitigate incidental catch of seabirds, although China fishing vessels almost operate in the areas between N23° and S30° .

On December10 of 2016,China Overseas Fisheries Association organized a training meeting especially for seabirds and sharks in FIJI . Experts from Birdlife International and ABNJ presented mitigation information to the captains and managers from the industries.

The information regarding interactions with seabirds reported by observers is shown in Table 11.

6.9 CMM 2013-08

In accordance with CMM 2013-08, CCMs shall estimate, through data collected from observer programs and other means, the number of releases of silky shark caught in the Convention Area, including the status upon release (dead or alive), and report this information to the WCPFC in Part 1 of their Annual Reports.

In 2016, there were 68 dead, 356 alive and 50 status unknown of silky shark recorded in our observer data in the WCPFC Convention Area. We estimated that there were 741(107 dead, 556 alive and 78 unknown) for the entire longline fleet based on the information by our observer data. All the alive silky sharks were released and the dead ones were discarded.

6.10 CMM 2015-02

In accordance with CMM 2015-02, CCMs shall report annually to the Commission the annual catch levels taken by each of their fishing vessels that has taken South Pacific albacore, as well as the number of vessels actively fishing for South Pacific albacore, in the Convention area south of 20°S.

The catch of South Pacific albacore in the convention area south of 20°S in 2016 by China fishery fleet was 3945 MT.

6.11 CMM 2010-10

According to the CMM 2010-10, Para 5c of the Measure stipulates that: 2013 and beyond: [20%] reduction of the highest catch between 2000 and 2003. Measures taken by China on the stock include:

(1)The fisheries authority of China made an arrangement to observe the catch limit as decided by the CMM, and accordingly, we set catch limit of 137.6 MT in 2014;

(2) the stock is included in the logbook for China longline fishery, and vessel master has to record the catch in the logbook correctly;

(3) catch data by longline vessel are submitted to the fishery authority on a monthly basis;

(4) fishing gear modification: vessels operating in the area applicable to the Measure are encouraged to use monofilament instead of wire leader to reduce the catch of such stock; and

(5)vessels are encouraged not to operate in fishing grounds where a large amount of such stock may be harvested.

The catch by China for North Striped Marlin in the area applicable to the CMM is 36.06MT in 2016. None of our fishing vessel targets for striped marlin.

6.12 Sea turtle information

For the longline fishing by Chinese vessel, sea turtle is one of the by-catch species that have to be accurately recorded in the logbook. The fisheries authority of China officially issued Logbook for Tuna Fisheries in 2008, and each tuna longline vessel, no matter of its fishing ground, is required to precisely record the sea turtle bycatch. Failure to doing so will lead to sanctions by the government, as China implements performance review on each fishing company on annual basis.

Booklets/posters on some sea turtles are printed and distributed to each longline vessel. Mitigation devices, such as dehookers and cutters, and user manual are provided to each longline vessel since September 2009 free of charge by China Overseas Fisheries Association. In 2012 and 2013, 85 and 72 sets of such devices were dispatched respectively each year to longline vessels, including those operating in WCPFC area. Fishing companies are trained on proper treatment, including safe release, on sea turtle.

For purse seine fishery, there are no reports related to sea turtles to our official authority in 2016 . 27 sea turtles were captured by China longline vessels according to the report of observers in 2016, and the specific information was reported in the China observer report.

Table 1 Number of Chinese tuna fishing vessels operating in the WCPFC Convention area in 2010-2016

Year	LL	PS	Total
2010	244	12	256
2011	275	12	287
2012	286	13	299
2013	379	14	393
2014	353	19	372
2015	448	20	468
2016	418	16	434

Note: LL vessels include chartered vessels

Table 2 Nominal catch of tuna and tuna-like species by the Chinese tuna fishery in the WCPFC Convention area in 2011-2016

（Unit of catch: MT in round weight）

Year	Gear	ALB	BET	YET	SKJ	SWO	BIL	OTH	Total
2011	LL	11996	11139	4598	0	1971	1768	1891	33363
	PS	0	843	8514	68194	0	0	0	77551
	Total	11996	11982	13112	68194	1971	1768	1891	110914
2012	LL	24826	11324	6004	0	2201	2574	2547	49476
	PS	0	222	4623	44303	0	0	0	49148
	Total	24826	11546	10627	44303	2201	2574	2547	98624
2013	LL	24162	10671	4638	0	1840	2102	1321	44734
	PS	0	170	8051	73607	0	0	2	81830
	Total	24162	10841	12689	73607	1840	2102	1323	126564
2014	LL	14643	9370	5949	0	2200	2113	810	35085
	PS	0	828	5551	53028	0	0	0	59407
	Total	14643	10197	11500	53028	2200	2113	810	94492
2015	LL	15122	8210	6226	0	2364	2268	935	35125
	PS	0	307	6969	35960	0	0	0	43236

	Total	15122	8517	13194	35960	2364	2268	935	78361
2016	LL	16175	8195	6559	0	1806	2095	895	35725
	PS	0	325	3805	13292	0	0	0	17422
	Total	16175	8520	10364	13292	1806	2095	895	53147

Note: BIL includes striped marlin, blue marlin and black marlin;OTH includes sharks and other species.

Table 3 Catch of non-target species by the Chinese LL tuna fishery in the WCPFC Convention Area from 2011 to 2016(Unit of catch: MT)

Species	**Billfish**			**Sharks**		
	Striped marlin	**Blue marlin**	**Black marlin**	**Blue shark**	**Shortfin mako**	**Oceanic Whitetip**
2011	370	1226	172	726	408	0
2012	524	1795	255	1126	516	0
2013	165	1926	11	453	25	0
2014	214	1826	73	206	19	0
2015	194	2025	49	372	50	33
2016	128	1892	75	261	23	/

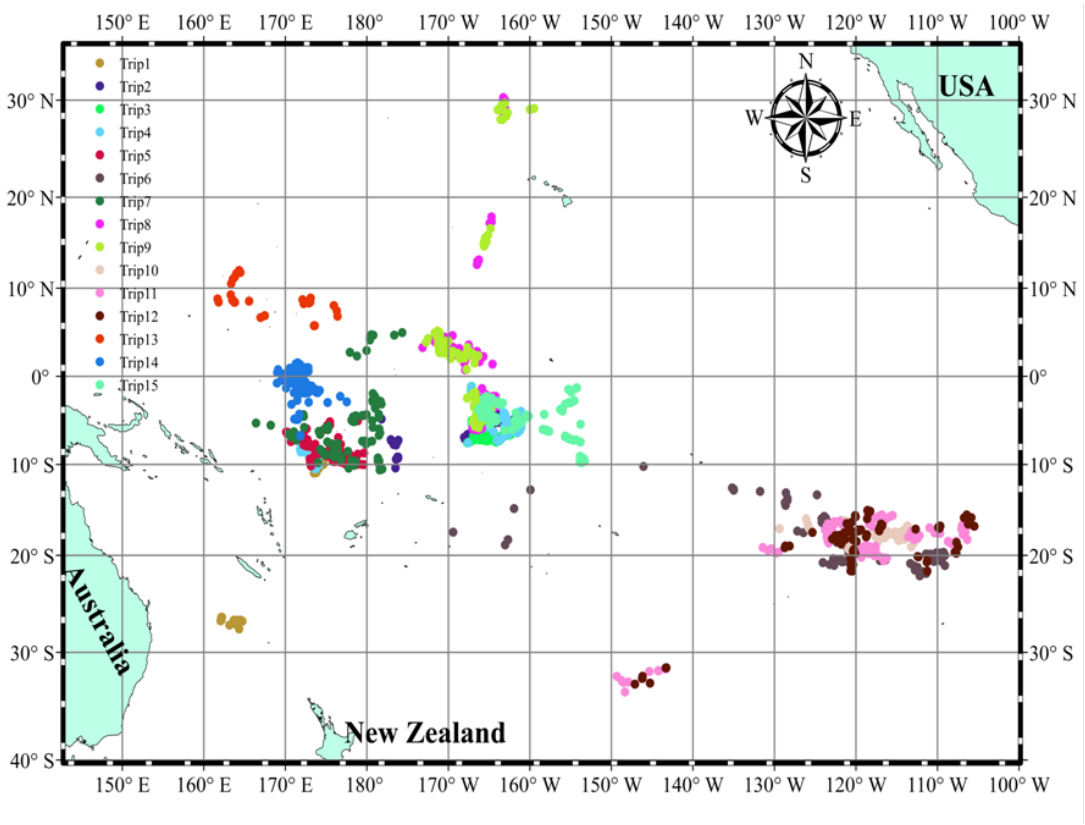

Figure 1 Position of Chinese scientific observer trip during 2016 in Pacific

Table 4 Trip information of Chinese scientific observer deployed in the Pacific Ocean during 2016

Trip	Fishing areas	Period	Set	Total hooks	Observed Hooks	HPB	Type
T-1	S26°28′ -S27°40′ , E162°4′ -E164°45′ , S9°48′ -S10°58′ , E173°10′ -E174°41′	Jul.04,2016-Aug.26,2016	48	157402	98389	27	I
T-2	S02°30′ -S09°25′ , W161°54′ -W178°12′	Jul 25,2016-Nov.25,2016	87	296803	274008	27	D
T-3	S1°09′ -S7°35′ , W167°40′ -W165°07′	Aug.03,2016-Nov.04,2016	86	302913	261090	27	I

T-4	S1°10′ -S10°30′ , E171°40′ -W161°02′	Dec.03.2016-Mar.10,2017	76	271188	237681	27	D
T-5	E170°7′ -E179°40′ , S04°59′ -S10°10′	Aug.15.2016-Dec.16.2016	99	337518	311930	25	D
T-6	S10°14′ -S22°11′ , W146°03′ -W112°09′	Sept.11.2016-Jan.07.2016	90	358863	292286	30	I
T-7	S10°37′ -N5°22′ W175°39′ -E166°10′	Sept.10.2016-Jan.29.2017	101	312642	295495	27	D
T-8	N30°15′ -S06°06′ , W162°59′ -W173°09′	Sept.08.2016-Jan.27.2017	125	370811	281792	17	D
T-9	N29°43′ -S5°51′ , W159°58′ -W172°43′	Sept.25.2016-Feb.07.2017	118	335070	231591	17	D
T-10	S16°03′ -S19°42′ , W126°06′ -W120°11′	Nov.05.2016-Feb.16.2017	93	385021	288615	27	I
T-11	S15°00′ -S32°00′ , W106°00′ -W149°00′	Sept.29.2016-Jan.23.2017	99	337436	290625	25	I
T-12	S15°00′ -S32°65′ , W105°00′ -W147°06′	Oct.01.2016-Jan.24.2017	91	326975	276516	25	I
T-13	N5°45'-N11°58', E161°42'-E176°25'	Oct.28.2016-Dec.14.2016	30	65900	59750	25	I
T-14	S07°17′ -N01°32′ , E160°00′ -E177°34′	Oct.18.2016-Feb.01.2017	94	244090	207900	22	D
T-15	S01°19′ -S09°48, W153°15′ -W166°19′	Nov.18.2016-Mar.19.2017	101	285544	254688	30	I

Note: HPB-Hook Per Basket .I - ice fresh tuna longline; D- deep frozen tuna longline

Table 5 The catch amount of each species when transshipment happened beyond areas of national jurisdiction(Unit of catch: MT)

SPECIES										
Total	BET	YFT	SWO	Striped Marlin	Blue Marlin	Shark	Albacore	Oil	Black Marlin	Others
22579.02	8343.1158	2598.378	1352.944	151.081	274.771	156.374	8513.784	15.073	110.399	1063.102

Table 6 The catch amount of each product type when transshipment happened beyond areas of national jurisdiction(Unit of catch: MT)

Product Type												
TOTAL	Gutted and Headed	Gutted	headed and Tailed	Gutted only	Not gilled	FILLET	Gilled and Gutted	Gilled	Gutted and tailed	Shark Fins	Others	Whole
22579.02	551.535	25.4	397.356	12.136	0	0	9682.487	0	1569.37	0.156	1305.703	9034.878

Table 7 The catch amount of each species when transshipment happened in EEZ(Unit of catch: MT)

SPECIES										
Total	BET	YFT	SWO	Striped Marlin	Blue Marlin	Shark	Albacore	Oil	Black Marlin	Others
1468.692	1177.683	196.423	0	19.433	0	0	75.153	0	0	0

Table 8 The catch amount of each product type when transshipment happened in EEZ (Unit of catch: MT)

Product Type												
TOTAL	Gutted and Headed	Gutted	headed and Tailed	Gutted only	Not gilled	FILLET	Gilled and Gutted	Gilled	Gutted and tailed	Shark Fins	Others	Whole
1468.692	0	0	0	0	0	0	1393.539	0	0	0	0	75.153

Table 9 Cetacean interactions in purse seine fishery for national fleet

Vessel Name	Species	Date	Latitude	Longitude	EEZ	Life Status(Dead/Alive)	Number of Individuals
XIN SHI JI 111	Dolphin	2016/1/15 06:02	01°48'N	167°50'E	Nauru	D	6
XIN SHI JI 111	Whale	2016/4/11 08:02	02°57'S	153°46'E	PNG	A1	1
XIN SHI JI 111	Whale	2016/4/11 13:32	02°55'S	153°48'E	PNG	A1	1
XIN SHI JI 111	Whale	2016/4/12 09:35	02°32'S	153°33'E	PNG	A1	1
XIN SHI JI 111	Whale	2016/4/17 16:41	03°44'S	161°05'E	PNG	A1	1
XIN SHI JI 111	Whale	2016/4/22 05:31	03°12'S	175°58'E	KIRIBATI	A1	1
XIN SHI JI 111	False Killer Whale	2016/6/23 5:29	02°46'S	159°58'E	PNG	7-Al, 6-D	13
XIN SHI JI 111	Whale	2016/9/28 16:41	01°36'S	166°16'E	Nauru	A1	1
XIN SHI JI 112	Short-Finned Pilot Whale(FAW)	2016/2/21 16:30	01°18'S	173°02'E	KIRIBATI	2-Al,1-D	3
XIN SHI JI 112	Rough-toothed dolphin	2016/3/23 5:21	01°31'S	164°37'E	Nauru	D	9
XIN SHI JI 112	Short-Finned Pilot Whale(FAW)	2016/4/15 10:30	02°48'S	153°32'E	PNG	A1	2
XIN SHI JI 112	Short-Finned Pilot Whale(SHW)	2016/11/6 9:10	02°15'S	166°34'E	Nauru	8-Al, 2-D	10
XIN SHI JI 112	Sei Whale	2016/11/6 15:58	02°14'S	166°33'E	Nauru	A1	1

Table 10 Whale shark interactions in purse seine for national fleet

Flag	Gear	Vessel Name	Species	Date	Latitude	Longitude	EEZ	Life Status(Dead/Alive)	Number of Individuals
CN	PS	XIN SHI JI 111	Whale Shark	2016/7/9 15:49	00°04'N	157°04'E	FSM	A1	1
CN	PS	XIN SHI JI 111	Whale Shark	2016/9/9 13:10	02°49'N	171°00'E	KIRIBATI	A1	1
CN	PS	XIN SHI JI 111	Whale Shark	2016/10/24 11:35	01°17'N	166°16'E	Nauru	A1	1
CN	PS	XIN SHI JI 112	Whale Shark	2016/1/17 14:39	00°49'N	166°37.78'E	Nauru	A1	1
CN	PS	XIN SHI JI 112	Whale Shark	2016/2/3 13:44	01°33'S	170°59.038'E	KIRIBATI	A1	1
CN	PS	XIN SHI JI 112	Whale Shark	2016/2/3 18:17	01°28'S	171°4.09'E	KIRIBATI	A1	1
CN	PS	XIN SHI JI 112	Whale Shark	2016/4/11 11:00	02°56'S	153°48.469'E	PNG	A1	1
CN	PS	XIN SHI JI 112	Whale Shark	2016/4/11 17:14	02°59'S	153°41.586'E	PNG	A1	1
CN	PS	XIN SHI JI 112	Whale Shark	2016/6/16 09:48	06°43'S	176°42.481'E	High Seas	A1	1
CN	PS	XIANG FA 8	Whale Shark	2016/7/9 11:31	00°14'S	157°21.156'E	FSM	A1	1
CN	PS	XIANG FA 8	Whale Shark	2016/8/21 10:41	00°40'S	168°19.797'E	KIRIBATI	A1	1
CN	PS	JIN HUI 8	Whale Shark	2016/6/29 04:55	07°06'S	173°E	RMI	A1	1

Table 11 The number of observed seabird bycatch of longline fishery by species and by area in 2016

Year	Species	South of 30°S	North of 23°N	23°N - 30°S
2016	Unidentified albatross			1
2016	Black-footed albatross		8	
2016	Laysan albatross		1	
2016	Black Browed Albatross	1		
2016	White-capped Albatross	1		
2016	Buller's Albatross	1		
2016	Sooty albatross	2		
2016	**Total**			

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Report of the scientific observer program for the Chinese longline fishery in the Pacific Ocean in 2016-2017

WCPFC-SC13-##

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SUMMARY

During 2016-2017, fifteen scientific observer trips were conducted for the Chinese longline fishery in the Pacific Ocean. Observers were selected from undergraduate students of Shanghai Ocean University and other sources. Observers were trained for three weeks before they were dispatched for taking the job, including safety requirements, species identification, catch and effort recording, biological measurements, fishing gear characteristics, etc. The observers worked for two types of longline fisheries, ice fresh tuna longline targeting albacore and deep frozen tuna longline targeting bigeye tuna. Catch and effort, and biological data (size, sex, maturity, etc.) of all species are collected if possible by observers.

Introduction

Longline is the main fishery type for China's tuna fisheries in the Pacific Ocean. The Chinese tuna longliners operate both in EEZs of Pacific Island countries and in high seas. In order to comply with conservation and management measures relating to data collection and fishery monitoring of WCPFC and IATTC waters, China's observer program conducted 15 observer trips during 2016-2017. This document reports general information of the 15 observer trips.

Trip description

The scientific observers were strictly trained for collecting fishery and biological data of pelagic species by longline fishery, including size data and maturity information if possible. During 2016-2017, 15 scientific observers were sent out on board the Chinese longliners in the Pacific Ocean, with a total of 15 observer trips being conducted.

Table 1 presented information for each trip, including fishing areas, periods, deployed hooks, and hooks per basket in the Pacific Ocean during 2016-2017.

Figure 1 showed positions of each observer trip in the Pacific Ocean during 2016-2017.

Catch information

For each trip, observers recorded effort (hooks) and catch by species, and size composition for all the target and bycatch species including sharks and sea turtles. About 90% hooks of each set are monitored by observers.

Table 2 presented the catch in number by species collected by observers in the Pacific Ocean during 2016-2017. Trip 1, Trip 3, Trip 6, Trip 10, Trip 11, and Trip 12 were targeting albacore. Trip 13 and Trip 15 were also targeting albacore but the proportions of albacore catch were low. Trip 2, Trip 4, Trip 5, Trip 7, Trip 8, Trip 9, and Trip 14 were targeting bigeye tuna.

Table 3 presented nominal CPUE of common shark species. Bigeye thresher and Oceanic whitetip sharks were released or discarded when they are incidentally caught.

The real CPUE of shark species might be slightly higher than observed because some hooked sharks may have been discarded near the sea surface when hauling and thus not recorded by observers.

There were 27 sea turtles interaction with the longline gear reported by the observers. Three leatherback turtles, twenty-one olive redley turtles, two loggerhead turtles and one green turtle were incidentally captured by entangled, hooked with forelimb and hind limb respectively. All the sea turtles are retrieved on board with proper treatment and are safely released at alive(with dehooker equipment based on Sea Turtle Handle Guideline).

Fourteen seabirds were captured in the all trips. The specific information was shown in Table 4.

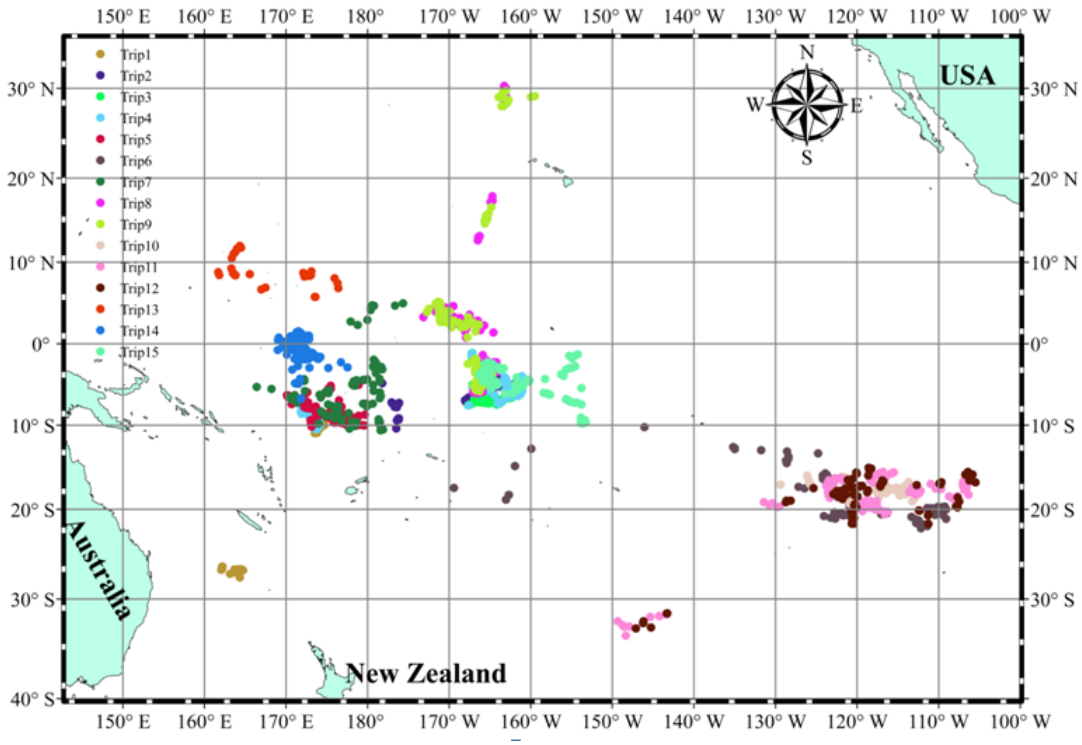

Figure 1 Set positions of China's tuna longline observer trips in the Pacific Ocean during 2016-2017

Table 1 Information of China's tuna longline observer trips in the Pacific Ocean during 2016-2017

Trip	Fishing area	Fishing period	Sets	Total hooks	Observed Hooks	HPB	Type
T-1	S26°28′-S27°40′, E162°4′-E164°45′, S9°48′-S10°58′, E173°10′-E174°41′	Jul.04,2016 -Aug.26,2016	48	157402	98389	27	I
T-2	S02°30′-S09°25′, W161°54′-W178°12′	Jul 25,2016 -Nov.25,2016	87	296803	274008	27	D
T-3	S1°09′-S7°35′, W167°40′-W165°07′	Aug.03,2016 -Nov.04,2016	86	302913	261090	27	I
T-4	S1°10′-S10°30′, E171°40′-W161°02′	Dec.03.2016 -Mar.10,2017	76	271188	237681	27	D
T-5	E170°7′-E179°40′, S04°59′-S10°10′	Aug.15.2016 -Dec.16.2016	99	337518	311930	25	D
T-6	S10°14′-S22°11′, W146°03′-W112°09′	Sept.11.2016 -Jan.07.2016	90	358863	292286	30	I
T-7	S10°37′-N5°22′ W175°39′-E166°10′	Sept.10.2016 -Jan.29.2017	101	312642	295495	27	D
T-8	N30°15′-S06°06′, W162°59′-W173°09′	Sept.08.2016 -Jan.27.2017	125	370811	281792	17	D
T-9	N29°43′-S5°51′, W159°58′-W172°43′	Sept.25.2016 -Feb.07.2017	118	335070	231591	17	D
T-10	S16°03′-S19°42′, W126°06′-W120°11′	Nov.05.2016 -Feb.16.2017	93	385021	288615	27	I
T-11	S15°00′-S32°00′, W106°00′-W149°00′	Sept.29.2016 -Jan.23.2017	99	337436	290625	25	I
T-12	S15°00′-S32°65′, W105°00′-W147°06′	Oct.01.2016 -Jan.24.2017	91	326975	276516	25	I
T-13	N5°45'-N11°58', E161°42'-E176°25'	Oct.28.2016 -Dec.14.2016	30	65900	59750	25	I
T-14	S07°17′-N01°32′, E160°00′-E177°34′	Oct.18.2016 -Feb.01.2017	94	244090	207900	22	D
T-15	S01°19′-S09°48, W153°15′-W166°19′	Nov.18.2016 -Mar.19.2017	101	285544	254688	30	I

Note: HPB-Hook per basket .

I - Ice fresh tuna longline; D- Deep frozen tuna longline

Table 2 Catch in number by species for China's tuna longline observer trips in the Pacific Ocean during 2016-2017

Species	Trip1	Trip2	Trip3	Trip4	Trip5	Trip6	Trip7	Trip8	Trip9	Trip10	Trip11	Trip12	Trip13	Trip14	Trip15
Bigeye tuna	141	581	643	480	509	317	715	1212	1088	118	163	144	167	535	570
Yellowfin tuna	487	1164	1588	678	651	207	574	303	219	97	94	259	370	512	197
Albacore	1280	843	1597	127	904	3443	464	56	38	3619	4269	3710	12	389	44
Skipjack	6	324	640	120	191	156	283	77	63	532	120	215	9	221	43
Blue marlin	0	74	23	8	35	58	59	166	138	5	33	32	36	19	2
Striped marlin	0	14	8	0	1	8	3	37	38	13	7	10	0	0	4

Black marlin	3	18	15	76	39	1	24	0	0	3	0	1	0	40	64
Swordfish	0	46	15	17	20	30	22	62	40	27	30	40	6	11	63
Indo-Pacific sailfish	0	15	2	9	20	4	10	17	8	0	0	0	0	0	1
Shortbill spearfish	7	35	31	0	2	93	0	23	11	63	67	158	0	0	11
Oceanic whitetip shark	0	49	34	12	1	0	91	14	39	0	0	0	0	11	22
Silky shark	12	88	4	0	3	0	71	158	73	0	0	0	0	38	26
Blue shark	0	65	0	4	0	5	64	154	207	24	43	127	0	15	47
Shortfin mako	0	1	0	0	0	0	0	5	10	1	5	2	0	0	1
Longfin mako	0	4	1	2	2	0	0	3	5	1	0	3	0	3	0

Bigeye thresher	0	1	0	0	0	0	0	29	32	0	0	1	0	2	30
Pelagic thresher	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
Crocodile shark	0	5	13	0	0	0	0	12	14	0	0	3	0	0	208
Whale shark	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tiger shark	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Velvet dogfish	0	0	0	1	0	0	0	11	9	0	0	0	0	0	292
Scalloped hammerhead	0	0	0	0	0	0	1	1	4	0	0	0	0	6	0
Smooth hammerhead	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0
Longnose lancetfish	0	19	4	5	0	341	0	143	136	13	86	787	0	0	431

shortnose lancetfish	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Sickle pomfret	8	9	14	7	0	0	54	37	107	2	0	8	7	2	0
Bigscale pomfret	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dagger pomfret	3	19	8	13	0	1	0	14	13	6	0	13	0	0	118
Atlantic pomfret	15	0	0	0	0	0	0	6	6	0	0	0	0	0	0
Common dolphinfish	2	6	2	2	6	76	37	46	89	9	29	27	164	8	2
Wahoo	29	231	294	98	73	234	77	46	56	128	109	188	52	44	66
Escolar	38	205	127	39	1	87	87	159	39	64	85	127	0	28	121
Snake mackerel	3	20	16	14	80	1	251	16	6	5	0	7	3	1	0

Oilfish	0	3	1	0	40	0	3	0	0	0	0	0	0	0	0
Roudi escolar	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0
Black gemfish	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Opah	23	2	1	4	0	12	0	19	12	31	57	62	0	0	9
Spinetail mobula	0	1	0	5	1	0	0	2	3	0	0	0	0	5	0
Pelagic stingray	21	133	88	113	255	19	645	165	104	0	5	92	0	123	0
Ocean sunfish	0	2	1	1	2	12	2	0	3	0	1	2	0	1	0
Slender sunfish	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0
Dealfish	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Great barracuda	3	38	20	0	18	2	20	0	8	0	0	2	0	3	0
Sixline soapfish	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rainbow runner	3	2	0	0	3	0	1	0	0	0	0	0	0	0	0
Razorbach scabbardfish	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Crestfish	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0
Slender tuna	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Leatherback turtle	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
Olive Ridley turtle	1	0	1	0	2	0	0	5	3	0	0	0	0	7	0
Lustrous pomfret	1	0	0	0	0	6	0	0	0	0	0	0	0	0	0

Tapertail ribbonfish	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Unicornfish	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0
Truncated sunfish	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0
Marlinsucker	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0
Unidentified shark	0	100	93	145	0	0	300	0	0	0	0	0	0	0	0
Alopias pelagicus	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Giant manta	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
Blacktip shark	0	0	0	75	0	0	0	0	0	0	0	0	0	85	0
Galapagos shark	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0

Rough pomfret	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0
Sharptail sunfish	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0
Marlinsucker	0	0	0	0	0	71	42	10	87	0	0	0	0	0	0
Common remora	0	0	0	0	0	13	10	3	12	0	0	0	0	0	0
Truncated sunfish	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
Loggerhead turtle	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
Almaco jack	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
Green turtle	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Razorback scabbardfish	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0

Buller's Albatross	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
White-capped albatross	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Black-browed albatross	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Sooty albatross	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
Bignose shark	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0

Table 3 Nominal CPUE of shark species by trip from China's Observer Program during 2016-2017 (No. per 1000 hooks)

Species	Trip 1	Trip 2	Trip 3	Trip 4	Trip 5	Trip 6	Trip 7	Trip 8	Trip 9	Trip 10	Trip 11	Trip 12	Trip 13	Trip 14	Trip 15
OCS	0.000	0.179	0.130	0.050	0.003	0.000	0.308	0.050	0.168	0.000	0.000	0.000	0.000	0.053	0.086
FAL	0.122	0.321	0.015	0.000	0.010	0.000	0.240	0.561	0.315	0.000	0.000	0.000	0.000	0.183	0.102
BSH	0.000	0.237	0.000	0.017	0.000	0.017	0.217	0.547	0.894	0.083	0.148	0.459	0.000	0.072	0.185
SMA	0.000	0.004	0.000	0.000	0.000	0.000	0.000	0.018	0.043	0.003	0.017	0.007	0.000	0.000	0.004
LMA	0.000	0.015	0.004	0.008	0.006	0.000	0.000	0.011	0.022	0.003	0.000	0.011	0.000	0.014	0.000
BTH	0.000	0.004	0.000	0.000	0.000	0.000	0.000	0.103	0.138	0.000	0.000	0.004	0.000	0.010	0.118
PSK	0.000	0.018	0.050	0.000	0.000	0.000	0.000	0.043	0.060	0.000	0.000	0.011	0.000	0.000	0.817
SSQ	0.000	0.000	0.000	0.004	0.000	0.000	0.000	0.039	0.039	0.000	0.000	0.000	0.000	0.000	1.147
SPL	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.004	0.017	0.000	0.000	0.000	0.000	0.029	0.000
SPZ	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.000

OCS: Oceanic whitetip shark; FAL: Silky shark; BSH: Blue shark; SMA: Shortfin mako; LMA: Longfin mako; BTH: Bigeye thresher; PSK: Crocodile shark; SSQ: Velvet dogfish; SPL: Scalloped hammerhead; SPZ: Smooth hammerhead

Table 4 The reported information of seabirds incidentally captured from observers

Date	Species	Location
2016/9/29	Unidentified albatross	S7°04′,W163° 37′
2017/1/19	Black-footed albatross	N28°43′,W163° 10′
2017/1/23	Black-footed albatross	N30°00′,W163° 15′
2017/1/23	Black-footed albatross	N30°00′,W163° 15′
2017/1/23	Black-footed albatross	N30°00′,W163° 15′
2017/1/24	Black-footed albatross	N30°15′,W163° 15′
2017/1/25	Black-footed albatross	N30°00′,W163° 15′
2017/1/24	Laysan albatross	N30°15′,W163° 15′
2017/1/17	Black-footed albatross	N28°4′,W163°20′
2017/1/17	Black-footed albatross	N28°4′,W163°20′
2016/9/30	Black Browed Albatross	S32°17′,W149° 16′
2016/10/1	White-capped Albatross	S31°42′,W148°52′
2016/10/9	Buller's Albatross	S31°50′,W144°33′
2016/10/5	Sooty albatross	S32°19′,W146°04′
2016/10/5	Sooty albatross	S32°19′,W146°05′